

Integration of DST's for non-conflicting end-to-end flight scheduling, Phase II

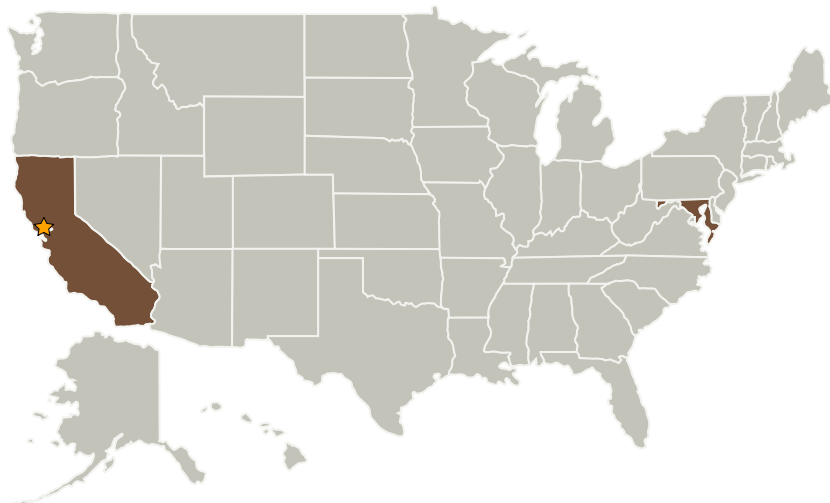
Completed Technology Project (2002 - 2004)



Project Introduction

In this SBIR effort we propose an innovative approach for the integration of Decision Support Tools (DSTs) for increased situational awareness, improved cooperative scheduling and collaborative decision-making in all parts of the air space. We propose to investigate two types of integration models based on the extent and feasibility of the level of integration and use appropriate game theoretic approaches to analyze these models. The proposed models are: (i) Data-sharing DST integration model: In this model, DSTs will primarily share data that is required for each DST to take a decision before an event happens. Based on the shared data each DST acts independently (ii) Interacting DST integration model: In this model, DSTs not only share data but also advise each other to act in such a way to reduce the level of conflict. Tools based on repeated strategic games and cooperative bargaining games will be used. We primarily focus on integrating Traffic Management Advisories (TMAs) across multiple centers as the application domain for the Phase I effort.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Intelligent Automation, Inc.	Supporting Organization	Industry	Rockville, Maryland



Integration of DST's for non-conflicting end-to-end flight scheduling, Phase II

Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Organizational Responsibility	1
Project Management	2
Technology Areas	2

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Integration of DST's for non-conflicting end-to-end flight scheduling, Phase II

Completed Technology Project (2002 - 2004)



Primary U.S. Work Locations

California

Maryland

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Project Manager:

Wendy Holforty

Principal Investigator:

Vikram Manikonda

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
 - └ TX06.2 Extravehicular Activity Systems
 - └ TX06.2.4 Decompression Sickness Mitigation